

CPC**COOPERATIVE PATENT CLASSIFICATION****C12C**

BREWING OF BEER (cleaning of raw materials [A23N](#); pitching and depitching machines, cellar tools [C12L](#); propagating yeasts [C12N 1/14](#); non-beverage ethanolic fermentation [C12P 7/06](#))

WARNING

[C12C 3/00](#) to [C12C 7/28](#) might be incomplete. See Warning after [C12C 9/00](#).

C12C 1/00**Preparation of malt**[C12C 1/02](#)

- . Pretreatment of grains, e.g. washing, steeping

[C12C 1/027](#)

- . Germinating

[C12C 1/0275](#)

- .. {on single or multi-stage floors}

[C12C 1/033](#)

- .. in boxes or drums

[C12C 1/047](#)

- .. Influencing the germination by chemical or physical means

[C12C 1/053](#)

- ... by irradiation or electric { or wave energy} treatment

[C12C 1/067](#)

- . Drying

[C12C 1/073](#)

- .. Processes or apparatus specially adapted to save or recover energy

[C12C 1/10](#)

- .. Drying on fixed supports

[C12C 1/12](#)

- .. Drying on moving supports

[C12C 1/125](#)

- . Continuous or semi-continuous processes for steeping, germinating or drying

[C12C 1/13](#)

- .. with vertical transport of the grains

[C12C 1/135](#)

- .. with horizontal transport of the grains

[C12C 1/15](#)

- . Grain or malt turning, charging or discharging apparatus

[C12C 1/16](#)

- . After-treatment of malt, e.g. malt cleaning, detachment of the germ

[C12C 1/18](#)

- . Preparation of malt extract or of special kinds of malt, e.g. caramel, black malt ([malt products for use as foodstuffs A23L](#))

C12C 3/00**Treatment of hops**[C12C 3/02](#)

- . Drying

[C12C 3/04](#)

- . Conserving; Storing; Packing

[C12C 3/06](#)

- .. Powder or pellets from hops

[C12C 3/08](#)

- .. Solvent extracts from hops

- C12C 3/085 . . . {Extraction of hops with beerwort}
- C12C 3/10 . . . using carbon dioxide
- C12C 3/12 . Isomerised products from hops
- C12C 5/00** **Other raw materials for the preparation of beer**
- C12C 5/002 . {Brewing water}
- C12C 5/004 . {Enzymes}
- C12C 5/006 . . {Beta-glucanase or functionally equivalent enzymes}
- C12C 5/008 . {Hop surrogates}
- C12C 5/02 . Additives for beer
- C12C 5/023 . . {enhancing the vitamin content}
- C12C 5/026 . . {Beer flavouring preparations}
- C12C 5/04 . . Colouring additives
- C12C 7/00** **Preparation of wort (malt extract [C12C 1/18](#))**
- C12C 7/01 . Pretreatment of malt, e.g. malt grinding
- C12C 7/04 . Preparation or treatment of the mash
- C12C 7/042 . . {Mixing malt with water}
- C12C 7/044 . . {Cooling the mash ([C12C 7/067](#) takes precedence)}
- C12C 7/047 . . part of the mash being unmalted cereal mash
- C12C 7/053 . . part of the mash being non-cereal material
- C12C 7/06 . . Mashing apparatus
- C12C 7/062 . . . {with a horizontal stirrer shaft}
- C12C 7/065 . . . {with a vertical stirrer shaft}
- C12C 7/067 . . . {with cooling means}
- C12C 7/14 . Clarifying wort (Läuterung)
- C12C 7/16 . . by straining
- C12C 7/161 . . . {in a tub with a perforated false bottom}
- C12C 7/163 . . . {with transport of the mash by or relative to a filtering surface}
- C12C 7/165 . . . in mash filters
- C12C 7/17 . . . in lautertuns, {e.g. in a tub with perforated false bottom}
- C12C 7/175 . . by centrifuging
- C12C 7/20 . Boiling the beerwort ([brew kettles C12C 13/02](#))
- C12C 7/205 . . {Boiling with hops}
- C12C 7/22 . . . Processes or apparatus specially adapted to save or recover energy

- C12C 7/24 . Clarifying beerwort between hop boiling and cooling
- C12C 7/26 . Cooling beerwort; Clarifying beerwort during or after the cooling
- C12C 7/28 . After-treatment, {e.g. sterilisation ([C12C 11/00](#) takes precedence)}
- C12C 7/282 .. {Concentration or beerwort}
- C12C 7/285 .. {Drying beerwort}
- C12C 7/287 .. {Treating beerwort with hopextract ([C12C 7/205](#) takes precedence)}

C12C 9/00 **Methods specially adapted for the making of beerwort**

WARNING

[C12C 9/00](#) to [C12C 9/025](#) are no longer used for classification of new documents. Patent documents classified in these groups are being continuously reclassified to the corresponding groups [C12C 3/00](#) to [C12C 7/00](#)

- C12C 9/02 . Beerwort treatment; Boiling with hops; Hop extraction
- C12C 9/025 .. {Preparation of hop extracts (extraction with beerwort [C12C 9/02](#)); Isomerisation of these extracts; Treatment of beerwort with these extracts; Surrogates of the hop}

C12C 11/00 **Fermentation processes for beer (preparation of wine [C12G 1/00](#))**

- C12C 11/003 . {Fermentation of beerwort}
- C12C 11/006 .. {Fermentation tanks therefor}
- C12C 11/02 . Pitching yeast
- C12C 11/06 . Acidifying the wort
- C12C 11/07 . Continuous fermentation
- C12C 11/075 .. {Bioreactors for continuous fermentation}
- C12C 11/09 . Fermentation with immobilised yeast
- C12C 11/11 . Post fermentation treatments, e.g. carbonation, concentration ([C12H](#) takes precedence; containers with means specially adapted for effervescing potable liquids [B65D 85/73](#))

C12C 12/00 **Processes specially adapted for making special kinds of beer**

- C12C 12/002 . {using special micro-organisms}
- C12C 12/004 .. {Genetically modified micro-organisms}
- C12C 12/006 .. {Yeasts (processes for seeding [C12C 11/02](#))}
- C12C 12/008 .. {Lactic acid bacteria}
- C12C 12/02 . Beer with low calorie content ([C12C 12/04](#) takes precedence)

C12C 12/04 . Beer with low alcohol content {(removal of alcohol after fermentation [C12G 3/08](#))}

C12C 13/00 **Brewing devices, not covered by a single group of [C12C 1/00](#) to [C12C 12/04](#)**

C12C 13/02 . Brew kettles {([C12C 11/075](#) takes precedence)}

C12C 13/025 .. {heated with steam}

C12C 13/06 .. heated with fire

C12C 13/08 .. with internal heating elements

C12C 13/10 . Home brew equipment

C12C 2200/00 **Special features**

C12C 2200/01 . Use of specific genetic variants of barley or other sources of fermentable carbohydrates for beer brewing

C12C 2200/05 . Use of genetically modified microorganisms in the preparation of beer

C12C 2200/31 . Clarifying wort before or during or after cooling;

C12C 2200/35 . Dissolving, reconstituting or diluting concentrated or dried wort